

REMARKS

The Office Action dated February 17, 2005, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1-8 are pending.

The Applicants wish to thank the Examiner for indicating allowable subject matter in claims 4 and 6. Claims 4 and 6 were not rewritten in independent form as they depend from claim 1 which is allowable for the reasons submitted below.

Claims 1-3, 5 and 7-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujikawa et al. (U.S. Patent No. 5,533,712, "Fujikawa") in view of Dow et al. (U.S. Patent No. 3,816,782, "Dow"). The Applicants traverse the rejection and respectfully submit that claims 1-3, 5 and 7-8 recite subject matter that is neither disclosed nor suggested by the cited prior art. Claims 2, 3 and 5 depend from claim 1 and claim 8 depends from claim 7.

Fujikawa discloses an elastic hoist and traction apparatus in which a friction receiving surface is provided at a rotor 32 of a motor 3, and an overload prevention device 7A is provided at the reverse side to a load on a brake for stopping a driving shaft 82 and between the motor shaft 4 and the friction receiving surface of the rotor 32 or between the motor shaft 4 and the driving shaft 82. The overload prevention device 7A, as shown in Fig. 11, includes a cylindrical receiving member 61, a cylindrical holding member 62, an elastic member 64 comprising a coil spring for biasing the holding member 62 toward the receiving member 61, and a load setting and adjusting member 65 for adjusting the biasing force of the elastic member.

Dow discloses a thrust load equalizer for an electric motor 1 having a stator assembly 2 and a rotor assembly 3. Rotor assembly 3 includes a core 9. The core 9

has a shaft opening 13 therein, which is designed to accept a shaft 14. Main bearing 19 receives an end 20 of the shaft 14. The bearing 19 both supports the shaft 14 and permits its free rotation. Main bearing 19 has a thrust surface 21 positioned annularly about a face 60 of the bearing 19. A spring 30 is mounted over the shaft 14 on the bearing 19 side of the rotor assembly 3. An end 32 of the spring 30 has a radially inwardly projecting part 33. The part 33 is designed to engage a thrust collar 34. A thrust washer 41 is a wafer construction and has an axial opening therethrough. The thrust washer 41 is mounted on the shaft 14 in a friction fit. The spring 30, thrust collar 34, thrust washer 41 and thrust surface 21 form a first thrust means for the thrust system of the motor 1 as shown illustratively positioned on the end 20 of the shaft 14. The use of shim washers 50 and the action of the spring 30 keep free end play of the shaft 14 to a minimum. That is, the motor 1 is constructed so that little movement of the shaft 14 is permitted in the axial direction, the shim washers 50 taking up most of the axial slack.

With respect to claim 1, the Applicants submit that the combination of Fujikawa and Dow fails to disclose or suggest the claimed features of the invention. Claim 1 recites, "the elastic member generates reaction forces in opposite axial directions to push the motor shaft and the input shaft away from each other." The Office Action acknowledged that Fujikawa does not disclose this feature. The Office Action cited Dow for curing this deficiency. The Applicants submit, however, that Dow does not cure the deficiencies in Fujikawa. In particular, Dow does not disclose or suggest at least an elastic member generating reaction forces in opposite axial directions to push the motor shaft and the input shaft away from each other. Dow merely discloses a single shaft for which free end play is kept to a minimum.

Claim 1 also recites reaction forces of the elastic member act on the motor shaft to push the first bearing member axially, thereby pushing the housing. Dow further fails to disclose or suggest this feature of the invention, as there is no disclosure or suggestion of pushing the housing.

The Applicants also submit that it would not have been obvious to combine Fujikawa and Dow. As discussed above, claim 1 recites the elastic member generates reaction forces in opposite axial directions to push the motor shaft and the input shaft away from each other. The Office Action took the position that the driving shaft 82 and motor shaft 4 of Fujikawa were comparable to the input shaft and motor shaft, respectively of the present invention, and that it would have been obvious to modify the motor drive unit of Fujikawa with the floating bearing system as taught by Dow to enable the elastic member's reaction forces to push the motor shaft and the input shaft away from each other and thereby pushing the housing. See page 2, line 16 and page 4, lines 1-5 of the Office Action. Fujikawa discloses an elastic member 64 comprising a coil spring for biasing the holding member 62 toward the receiving member 61. However, the receiving member 61 of Fujikawa is not rotatably coupled with the one axial end 82a of the driving shaft 82, and the holding member 62 is not rotatably coupled with the one axial end 4a of the motor shaft 4, such that a reaction force of the elastic member could push the driving shaft and motor shaft away from each other. Rather, as discussed above, the elastic member 64 in Fujikawa merely biases the holding member 62 toward the receiving member 61. As such, there is no disclosure or suggestion in Fujikawa that the elastic member 64 generates reaction forces in opposite axial directions to push the motor shaft 4 and the driving shaft 82 away from each other. Thus, the Office Action's proposed modification, to enable the elastic member's reaction

forces to push the motor shaft and driving shaft 82 away from each other and thereby push the motor casing 13, would change the principle of operation of the reference. MPEP §2134.01 states that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Therefore, it would not have been obvious to combine Fujikawa and Dow.

Further, the Applicants submit that Dow teaches away from the claimed invention. In particular, claim 1 recites pushing the motor shaft and input shaft axially away from each other. However, Dow discloses that the motor 1 is constructed so that little movement of the shaft 14 is permitted in the axial direction. See column 5, lines 23-26 of Dow. Therefore, it would not have been obvious to one of ordinary skill in the art to combine the teachings of the motor in Dow with the electric hoist and traction apparatus of Fujikawa in order to meet the limitations of claim 1.

Based solely on the rejection of claim 7, the Applicants submit that the combination of Fujikawa and Dow fails to disclose or suggest the claimed features of the invention. Claim 7 recites at least a couple of helical gears. The Office Action took the position that Fujikawa disclosed “helical gears (81, 83, 84, 86, 87, 89 of Fig. 2).” The Applicants submit, however, that the gears cited by the Office Action are not disclosed in Fujikawa as being helical. As such, Fujikawa fails to disclose or suggest at least this feature of the invention.

Claims 1 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukazawa et al. (Japanese Patent Publication 2002-188452, “Fukazawa”) in view of Stenta (U.S. Patent No. 6,376,952). Claim 5 depends from claim 1. Fukazawa was

cited for disclosing many of the claimed elements of the invention with the exception of the elastic member generating reaction forces in opposite axial directions to push the motor shaft and the input shaft away from each other; wherein the reaction forces of the elastic member act on the motor shaft to push the first bearing member axially, thereby pushing the housing. Stenta was cited for curing this deficiency. The Applicants traverse the rejection and respectfully submit that claims 1 and 5 recite subject matter that is neither disclosed nor suggested by the cited prior art.

Fukazawa discloses a mechanical supercharger 1 including a pair of rotors 7, 8, rotating in gear receiving rotational drive force obtained by an input shaft 4. The connection between the input shaft 4 and a rotor shaft 5 in the rotor 7 is made by a torsion spring 11 for transmission of the drive force.

Stenta discloses a bearing system for a rotating shaft.

Stenta discloses a floating bearing system comprising a bearing supported in a clearance fit within a bearing bracket 30, for use in fractional horsepower shaded pole type electric motors. The bearing system is self-aligning, to compensate for deviations in the axial alignment of the rotor shaft.

With respect to claim 1, we propose arguing that the combination of Fukazawa and Stenta fails to disclose or suggest the claimed features of the invention. In particular, Stenta fails to cure the deficiencies in Fukazawa in that Stenta does not disclose at least an elastic member that generates reaction forces in opposite axial directions to push a motor shaft and an input shaft away from each other. Further, there is no disclosure or suggestion of reaction forces acting on the motor 10 in Stenta to push a first bearing member axially, thereby pushing any element that may arguably be comparable to a housing. Therefore, as neither reference discloses the elastic member

generating reaction forces in opposite axial directions to push the motor shaft and the input shaft away from each other; wherein the reaction forces of the elastic member act on the motor shaft to push the first bearing member axially thereby pushing the housing, the Applicants submit that it is impermissible hindsight to make the combination of Fukazawa and Stenta as neither reference discloses at least these claim limitations.

Under U.S. patent practice, the PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002). The Office Action restates the advantages of the present invention to justify the combination of references. There is, however, nothing in the applied references to evidence the desirability of these advantages in the disclosed structure.

For at least the combination of foregoing reasons, the Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness for purposes of a rejection of claims 1-3, 5 and 7-8 under 35 U.S.C. §103.

Claims 2, 3 and 5 depend from claim 1 and claim 8 depends from claim 7. The Applicants respectfully submit that these dependent claims are allowable at least because of their dependency from allowable base claims 1 and 7. Accordingly, the Applicants respectfully request allowance of claims 1-8 and the prompt issuance of a Notice of Allowability.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 108201-00013.**

Respectfully submitted,



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